



# PATENT SPECIFICATION

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## (54) IMPROVEMENTS IN HAIR DRYERS

(71) We, FERNHURST PRECISION TOOL COMPANY LIMITED, of 11 Leigh Road, Haine Industrial Estate, Ramsgate, Kent, a British company, do hereby declare the invention, for which we pray that a patent may be granted us, and the method by which it is to be performed, to be particularly described in and by the following statement:—

This invention concerns hair dryers and in particular hair dryers of the type usually held in the hand and comprising a casing housing an electric motor, the drive spindle of which carries a bladed air impeller adjacent an apertured air intake, air being drawn in and passing to an outlet or discharge pipe. These hair dryers are henceforth referred to as "the type set forth."

Such dryers usually utilise an impeller of the kind comprising a substantially dish or sauce like part with an axial sleeve which receives and grips the motor drive spindle, there being provided a plurality of equispaced blades on the convex surface of the dish-like part, each blade being located in a plane normal with respect to the dish part and having its root on substantially a common circumference spaced radially slightly from the sleeve and extending radially away from the sleeve and turning through substantially a right angle to extend beyond the edge of the dish-like part, the said part also having holes therethrough for the passage of air. These impellers are henceforth referred to as "the kind herein set forth."

It has been found with impellers as above, that there is a risk of a user's hair being drawn in through the air intake and becoming wrapped around the sleeve which projects from the dish like part towards the intake. The object of this invention is to provide a construction which obviates the above defect and according to the invention the sleeve is shrouded within a conical or frusto-conical boss, the base of which bears firmly on the surface of the impeller, the tapered surface of the boss being smooth.

In one arrangement, the sleeve is split along its length and is encircled by a spring clip,

the insertion of the spindle into the sleeve expanding said sleeve to grip the boss.

With an impeller of the kind above set forth the base of the boss has radial slots therein, each to engage over a blade at its root, so that the base of the boss seats firmly on to the convex dish surface.

An embodiment according to the invention will now be described with reference to the accompanying drawings in which:—

Figure 1 is a fragmentary front perspective view of an impeller with the boss in position.

Figure 2 is a rear view of the boss.

Figure 3 is a front view of the impeller sleeve and

Figure 4 is a section on the line A—A of Figure 1.

As shown the impeller consists of a dish or saucer like part 10 with an axial sleeve 11 projecting from its convex side and, equi- angularly spaced blades 12 on the convex surface of the part 10, these each extending outwardly and rearwardly with respect to the sleeve 11. Air holes 13 are provided through the part 10 between the blades 12.

The sleeve 11 is split along its length at 14 diametrically opposite locations and is encircled by a spring clip 15 so that the halves are constrained slightly towards one another.

A boss or shroud 16 is of frusto-conical shape, and has an axial bore 17 in which the sleeve with its springing is received. The base of the boss has slots 18 so that when the boss is in position each slot receives the root part of a blade 12. The apex of the boss has a narrowed outlet to provide a rim 19 which seats on the end of the sleeve when the boss is correctly located on the sleeve 11 with appropriate blade roots in the slots. A drive spindle 20 is then pushed into the sleeve from the concave side of the part 10 until its end is substantially co-planar with the apex end surface of the boss. This action causes the expansion of the sleeve and spring, the dimensioning of the parts being such that the boss is firmly functionally locked on the sleeve.

[Price 33p]

The impeller and boss conveniently are made of a synthetic plastics material.

WHAT WE CLAIM IS:—

1. A hair dryer of the type set forth and having a dish or saucer like bladed impeller with an axial sleeve projecting from its convex side and which sleeve receives the drive spindle wherein the sleeve is shrouded by a detachable control or frusto-conical boss the base of which bears firmly on the impeller surface, the tapered surface of the boss being smooth.
2. A hair dryer as claimed in Claim 1, wherein the sleeve is split along its length and is encircled by a spring clip, the insertion of the spindle into the sleeve expanding said sleeve to grip the boss.

3. A hair dryer as claimed in Claim 2, and having an impeller of the kind herein set forth, wherein the base of the boss has radial slots therein, each slot adapted to engage over a blade at its root.

4. A hair dryer of the type set fourth having an impeller assembly substantially as herein described with reference to the accompanying drawings.

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